# Distribution Integrity Management – What To Expect

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# History & Future

- 2001 – Liquid Integrity Management Rule
- 2003 – Transmission IMP Rule
- 2004 – DOT Inspector General Testifies
- 2005 – PHMSA Issues Phase 1 Report
- 2006 – GPTC Prepares Guidance
- 2007 – Notice of Proposed DIM Rule
- 2008 – Expected final Rule

# Phase 1: DIMP Structure

- 1. Development of an integrity management plan
- 2. Know your infrastructure
- 3. Identify threats (existing and potential)
- 3a. Segmenting pipeline systems
- 4. Assess and prioritize risk
- 5. Identify and implement measures to mitigate risks
- 6. Measure and monitor performance and results
- 7. Report results

# Know Your Infrastructure

- Material(s) of construction
- Leak history
- Repair history
- Inspection records:
  - Cathodic protection
  - Leakage surveys
  - Exposed pipe inspections

# Identify Threats

- A “threat” is something that can lead to an unplanned release of gas
- Phase 1 identified 8 threats:
  - Corrosion — Material or Welds
  - Natural Forces — Equipment
  - Excavation — Operations
  - Other Outside Force Damage — Other

# Segmenting Pipeline Systems

- Decision: Treat as one segment or many
  - Operate at significantly different pressures (e.g. ¼ psig vs 60 psig),
  - Are constructed of different materials (e.g. polyethylene vs bare steel or cast iron),
  - Were installed in different eras (1950's vs 1990's) This is closely related to materials above,
  - Have significantly different maintenance histories (e.g. many leaks vs few leaks), or
  - Are operated as separate distribution systems (e.g. few or no interconnects).

# Assess and Prioritize Risk

- Two general approaches:
  - The Subject Matter Expert method.
    - Review and ranking by the persons most knowledgeable about the system
  - Algorithm methods.
    - Numerical scores based on scores assigned to various attributes of the system
    - Final determination by SME's

# Implement Actions to Reduce Risks

- **DIMP does not presume that additional actions will always be required.**
- GPTC offers suggestions for each threat
- Operators may elect to continue existing inspection/repair/replacement programs, choose actions from the GPTC list or develop their own actions to address threats

# Specific Requirements

- Excess Flow Valves on new and replaced residential services > 10 psig
- Leak classification system
  - Locate the leak
  - Evaluate its severity
  - Act appropriately to mitigate the leak
  - Keep records
  - Self assess
- Or alternatively, LF – Locate and Fix

# Measure and Monitor Results

- How will you measure whether your program is successful at reducing risks?
- Internal and external performance measures
  - Internal – Used by the utility
  - External – Submitted to the State/Federal regulators
- Lists are included n GPTC material

# Continuing Improvement

- Operators will be required to periodically assess the effectiveness of their DIM Plan
- If performance measures show improvement, no further action required, however,
- If performance measures show no progress or declines, operators must modify DIM Plans

# GPTC Guidance

- Geared toward larger operators
- Guidance only, not mandatory
- Lists of infrastructure knowledge elements
- Lists of questions for threat assessment
- Lists of possible additional measures
- Lists of possible performance measures
- Published along with final rule

# APGA Principles For DIMP

- Must include the 7 elements spelled out in the DIMP Phase 1 Report
- Must rely on as inputs data that can reasonably be expected to be known to operators of small distribution systems
- Must minimize the amount of data analysis required of the user

# APGA Principles For DIMP

- The cost should be in line with the expected benefits
- Should not presume that the user is knowledgeable about integrity management and risk management principles
- Should not require and engineering degree
- Should assume operators are qualified and understand gas inspection and repair methods

# APGA Has Offered A Simplified Process

1. Get your construction and maintenance records together
2. Get your most knowledgeable operations and maintenance personnel together
3. Decide whether to treat your system as one segment or multiple segments
4. Discuss whether any of the 8 threats are significant threats for each segment of your system, based on the knowledge and experience of your personnel and your construction and maintenance records

# Simple Process continued

5. For any threats you decide are significant, determine if these are adequately addressed by your current programs. If not, look at the listed options for reducing each significant threat and pick one or more option that you believe will best address the threat. If you can think of other approaches that might work better, use them instead
6. Consider how you will determine whether your program to reduce the threats to your distribution system is working – how will you measure success?

# Simple Process continued

7. Write down the results of each step in this process.
8. If the performance measures for any threat are not showing improvement, go back to step 5 and consider other options to reduce these threats.
9. Repeat this process periodically

# Example Corrosion Threat

- What is the material of construction?
- Is it coated and cathodically-protected?
- Have cathodic protection levels been OK?
- Have exposed pipe inspections found coating or corrosion problems?
- Have there been corrosion leaks?

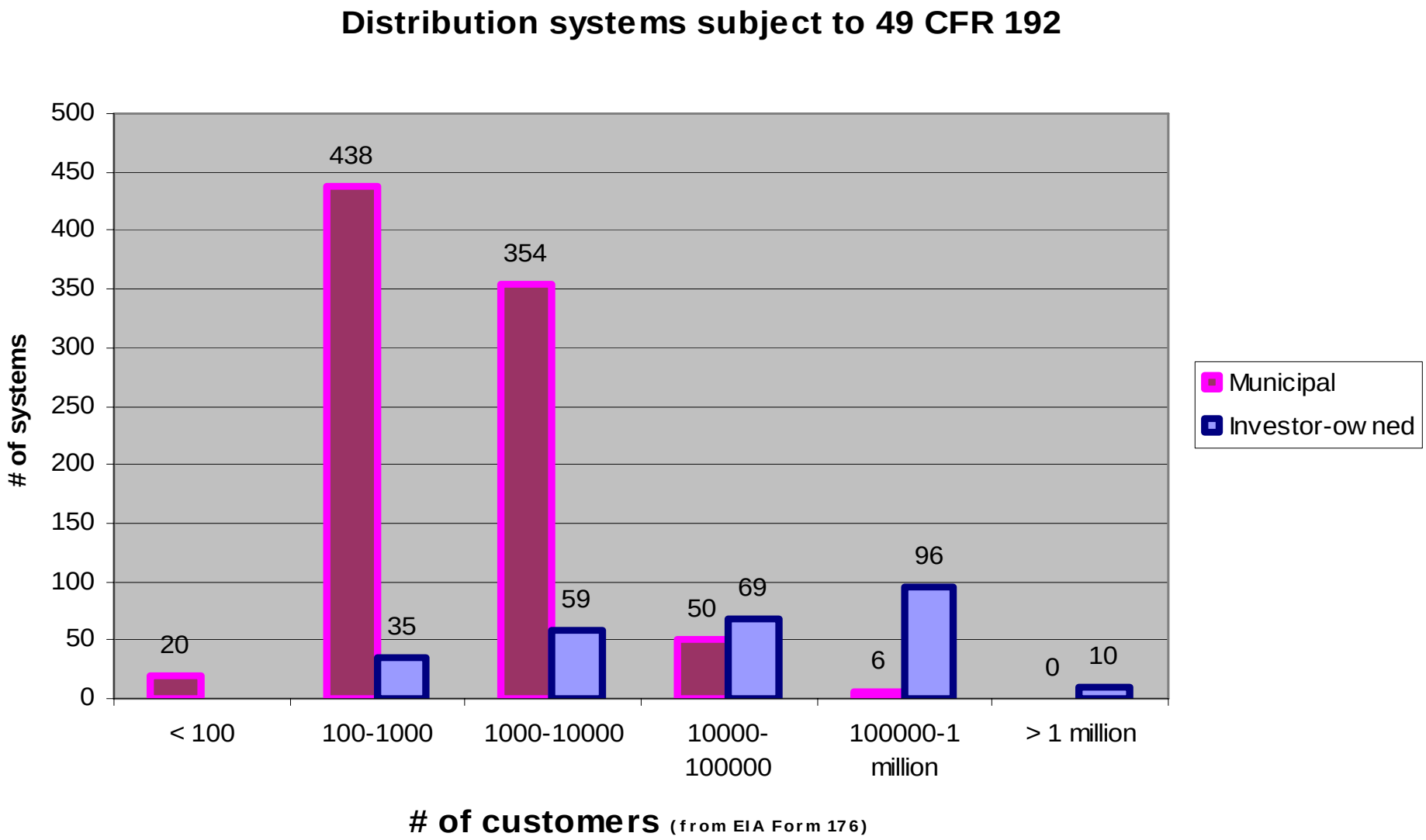
# Possible Additional Measures

- Replace (Specify replacement rate)
- Retrofit cathodic protection (all or hotspot)
- More frequent leak surveys

# Possible Performance Measures

- Number of Corrosion Leaks per mile
- Percent of pipe replaced
- Number of anodes installed

# Most LDC's Are Small



# For small operators …

- First there was LIMP (Liquid Integrity Management Program)
- Then there was TIMP (Transmission Integrity Management Program)
- Next came DIMP (Distribution Integrity Management Program)
- Finally for small systems, comes ……

# Introducing SHRIMP!

- Simple, Handy, Risk-based Integrity Management Plan

# SHRIMP

- Envision a software product similar to tax preparation software
- SHRIMP will ask the user a series of questions about the system and its inspection and maintenance history
- Questions will change based on answers
- Output will be a nearly complete DIM Plan

# SHRIMP Timing

- Due 6 months after final rule
- GOAL: Have SHRIMP trial version available when final rule is issued.
- That way utilities can decide whether to use SHRIMP or other means to develop DIMP

# Questions?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